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It's the Economy Stupid: Macroeconomics and Federal Elections in Australia

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In this paper we examine the impact of macroeconomic conditions on Federal electoral performance in 20th-century Australia. We find that the electorate penalizes a government for high inflation and high unemployment relative to trend. Real GDP growth and real wage growth were not found to have a systematic relationship with incumbent vote share at the Federal level. We also examine the voteshare of the Federal incumbent in three electorates: the safe Liberal seat of Kooyong, the safe Labor seat of Melbourne Ports, and the swinging seat of Latrobe. We find some evidence that unemployment affects electoral outcomes in the swinging seat, but no macroeconomic variables affect outcomes in the safe seats.

I Introduction

There is a large theoretical and empirical literature which examines the effect of elections and of partisan politics on macroeconomic performance. The two seminal articles in the field are Nordhaus (1975) and Hibbs (1977). Nordhaus posited that incumbent governments would try and stimulate the economy before elections to enhance their electoral performance. As a result, the macroeconomy would exhibit political cycles. Hibbs (1977) recognized that governments of different persuasions have differing desired economic outcomes and so the 'type' of government would determine macroeconomic conditions. Nordhaus's model gives rise to 'political business cycles', while Hibbs's is associated with partisan cycles. Empirical support for these models is mixed, with recent examples of some international evidence being Alesina and Roubini (1992), while Crosby, Brown and Malady (1997) provide some Australian evidence.

In this paper we approach the relationship between the macroeconomy and political outcomes from the opposite direction. We ask whether the performance of the economy affects the probability that an incumbent wins an election, as is implicitly assumed in the political business cycle literature. We regress voteshares for all Federal elections since 1901 on Australian macroeconomic data, along with some political variables. We also allow for macroeconomic performance to affect political parties differently. As posited in Hibbs (1977), it is often assumed that Labor (or left-wing) parties care more about unemployment and less about inflation than Liberal (or right-wing) parties. If voters also care about reducing high unemployment this will make left-wing parties more attractive to voters when unemployment is high. That is, coefficients on inflation and unemployment in election equations will differ for left- and for right-wing policy makers. The extent to which this is true will depend on the extent to which policy makers are ideological (care only about maximizing their own utility) and the extent to which policy makers are office seeking

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(in which case they will try and maximize the utility of the median voter). If all policy makers are office seeking then the policies of different parties will be similar (in a two-party system), and so voters would be less likely to choose governments on the basis of differences among parties. Hence we estimate two kinds of models of the impact of macroeconomic variables on election results: partisan models which allow different impacts of macroeconomic variables on left- and right-wing policy makers, and 'punishment' style models, where incumbents are punished and rewarded for good or bad macroeconomic performance during their electoral term. Alesina, Londregan and Rosenthal (1993) provide a more detailed summary of the theoretical literature on the partisan and the punishment models.

We examine the effect of economic variables on the Federal voteshare and on voteshares in the safe Liberal seat of Kooyong, the safe Labor seat of Melbourne Ports and the swinging seat of Latrobe. The results suggest that both unemployment and inflation systematically affect the proportion of the votes the government receives across all electorates, but GDP growth and real wage growth do not. We do not find that the relationships between the economic variables and voteshares differ across parties at the Federal level, suggesting that punishment type models fit the data better than 'partisan' models. However, the results at the electorate level differ. The economic variables were insignificant in the safe seats but we find evidence of 'partisan' behaviour with voters punishing Labor and Liberal differently for high unemployment in the swinging seat. The results are consistent with Labor being perceived as being more focused on reducing unemployment than the Liberal party.

In the next section we briefly discuss the previous literature in this area. Section III outlines our data sources and empirical procedures. Section IV presents our empirical evidence and Section V offers concluding comments.

II Related Literature

There is a large US literature which examines the impact of macroeconomic variables on incumbent electoral performance, but only a comparatively small Australian literature on this question. Some recent US examples are Grier and McGarrity (1997), Chappell and Suzuki (1993) and Alesina, Londregan and Rosenthal (1993). One of the difficulties confronting US researchers is the choice of dependent variable. It is not unusual for the party of the President to differ from the majority party in Congress. In this case it is not clear whether the electorate holds the congress or the President, or a combination of the two, responsible for economic conditions. An advantage of examining the Australian data is that the Australian Prime Minister is elected by the party having a majority in the Lower House, so that poor macroeconomic performance would be expected to adversely affect both the Prime Minister and the Prime Minister's party. Hence we use the incumbent's voteshare in the House of Representatives as the dependent variable in our empirical work.

Alesina, Londregan and Rosenthal (1993) summarize the US literature, and they argue that the general finding is that Presidential election outcomes are affected by real GDP growth, but less affected by inflation and unemployment outcomes. In general the relationship between economic variables and voting behaviour has been found to be less strong in House and Senate elections than in presidential elections. Subsequent research by Grier and McGarrity (1997) and Chappell and Suzuki (1993) finds statistically significant effects of unemployment and inflation on House and Senate electoral outcomes.

We are aware of only two Australian papers that examine the relationship between macroeconomic factors and electoral outcomes. Jackman and Marks (1994) examine the post-war electoral record, using annual inflation, unemployment and GDP growth data.[1] They do not find strong evidence that macroeconomic performance affects electoral outcomes although given the point estimates of the impact of inflation and unemployment on incumbent voteshares, they conclude that the 1993 election result, where the incumbent Labor Party won, was surprising given the high unemployment rate then prevailing.

Layton (1992) uses the proportion of people who are happy with how the Prime Minister is doing his job (from the Morgan Gallup Poll) as his dependent variable. He regresses this on a 'misery index' constructed using quarterly data from 1983 to 1989. Layton finds that the quarterly *changes* in inflation and unemployment affect popularity, but the *levels* of these variables do not seem to affect popularity.

Our paper differs from Jackman and Marks (1994) and from Layton (1992) in a number of ways. First, we examine the entire 20th-century

[1] See also the comment on this paper by Charnock (1995), and the reply by Marks (1995).

record for evidence of macroeconomic effects on elections, using quarterly data for the macroeconomic variables. The use of all Federal elections generates many more data points than were available to Jackson and Marks using the post-war data. Second, a problem with Jackman and Mark's (1994) empirical work is that annual data were used for the year in which the elections were held. If an election is held early in the year, and unemployment and inflation rise throughout the year (or GDP falls) then the researcher will be regressing the election voteshares on the inflation and unemployment rates which prevailed in large part after the election, rather than the rates before the election. We improve on this by using quarterly data on inflation, unemployment, and real wages. We also examine lags of the independent variables.

Another advantage of this study is that we examine a wider range of specifications than the previous literature. First, we allow for a possible honeymoon effect in the first election after an initial victory. Political scientists often argue that politicians have a honeymoon period after entering office, where popularity is high. We find the honeymoon effect to be statistically and quantitatively significant.

Alesina, Londregan, and Rosenthal (1993) argue that it is not the levels of inflation, unemployment and GDP growth that affect electoral outcomes, rather the departure from the *expected* value of these variables. Voters do not 'naively' reward good luck in government, but rather vote on the basis of rational predictions of how well the economy has done relative to expectations. We use a number of techniques to capture expected outcomes, and test the naive versus the rational voter model in our empirical work.

Finally, we examine the evidence on whether inflation and unemployment differentially affect the ALP and the coalition parties. The partisan literature assumes that different parties have different preferences. If this is the case, then we would expect different responses to inflation and unemployment from the ALP and from other parties. It may be the case that the ALP makes a greater effort to reduce high unemployment, and the Liberal party a greater effort to reduce inflation. Whether or not these efforts are successful is not relevant to this paper. What is important are voters perceptions. If voters *perceive* that the ALP will be more inclined to reduce unemployment when it is high, then they may be more inclined to elect them in this event.

III Data and Empirical Methodology

A common difficulty encountered in empirical studies of electoral outcomes is the small number of data points available. There have been only 39 Federal elections in Australian history. It is thus desirable to include the maximum number of elections in our sample. In this paper we utilize data from all but the first election and the most recent election. The time period covered is thus 1903 to 1996. Our dependent variable is the Federal incumbent voteshare. The explanatory variables are unemployment, inflation, real GDP growth and real wage growth.[2]

Our voteshare data from 1949–1998 are the two-party preferred vote. Unfortunately the two-party preferred vote is not available for earlier elections. Instead, for elections held prior to 1949 we classed parties as left wing or right wing, split the vote into left and right on the basis of first preferences (independent and other party voteshares were discarded) and apportioned the appropriate percentage to the incumbent. We thus have voteshare data for the incumbent for all elections.

Unemployment data are available from a number of sources since 1901. Quarterly trade union unemployment statistics are available in the Labour Report from 1913 to 1953, and Census unemployment rates are available for various years since 1901. Butlin (1977) and Keating (1973) have used the census unemployment rates to scale the trade union series and construct an annual unemployment rate series for 1901 to 1973. We have scaled the quarterly trade union statistics in the same manner as Butlin and Keating, and constructed quarterly unemployment rates from 1913 to 1953. For the years 1901 to 1912 and 1954 to 1958 only the annual estimates are available. To construct quarterly unemployment rates for these years we have simply assigned to each quarter in these years the annual unemployment number from Butlin, and then computed a centered five-quarter moving average to construct our final quarterly unemployment rate. Quarterly unemployment rate data are available since 1959 in the DX database.

[2] We also experimented with including housing mortgage rates. However, these rates were highly regulated up until the 1960s and so did not vary before this time. We experimented with using them over the period from 1960 but they were not a significant explanator in any of the models reported below. All of the data and programs used in this paper are available from the authors on request.

Inflation and real wage data are available at a quarterly frequency from 1912 to 1948 in the Labour Report, and since 1948 are available in DX. Annual numbers were available from 1901 to 1912 and we convert these to quarterly figures using the same method we used for unemployment and which is described above. We used the 'C' series until 1948, and thereafter the CPI inflation rate. We use nominal wage data from 1959 deflated by the CPI to construct a real wage series for 1959 to 1996.

Real GDP data are available annually in Butlin (1977) for 1901 to 1959. We use a moving average method using the annual growth rates to construct year on year growth rates for each quarter during this period—for example for the December 1903 election we take one half of the 1902/3 and one half of the 1903/4 growth rate as our year-on-year growth rate for the quarter associated with this election. From 1959 we use the quarterly real GDP data in DX to construct real GDP growth rates.[3]

We estimate ordinary least squares regressions of the following form:

$$V^{inc} = \alpha + \beta_1\pi + \beta_2 U + \beta_3 W/P + \beta_4 Y + \beta_5 H + \beta_6 WWI + \beta_6 WWII + u \quad (1)$$

where V^{inc} is the incumbent voteshare, π is the inflation rate for the year prior to the election, U is the unemployment rate during the election quarter, W/P is the growth in real wages over the year prior to the election, Y is the growth in real GDP in the year prior to the election, H is a variable that equals 1 if the election is the first held since the incumbent's initial victory (the honeymoon period), *WWI* equals 1 if the election was held during World War I and zero otherwise, *WWII* is similarly defined for World War II and u is the error term.

To explore the possibility that voters use performance relative to expectations, rather than simply current outcomes when making electoral choices, we employ two approaches. First, we include the changes in the above variables since the last election, rather than the levels of the variables. This accords with the notion that voters expect governments to improve the state of the economy, and don't necessarily punish a government which has a high unemployment rate on the election date, yet has been successful in decreasing unemployment since the previous election. Second, we compute ten-year simple moving averages of all of the variables, and use the difference from these averages as our explanatory variables. The moving averages are hence our measure of expected outcomes.

To test the hypothesis that left- and right-wing governments are treated differently according to the state of the macroeconomy we interact the most important explanatory variables with a variable that equals 1 if the incumbent is Liberal, and zero otherwise.

IV Results

(i) Variables in Levels

Table 1 presents the preferred specifications for the regressions of incumbent voteshare over the entire sample. Note that for all reported regressions we have dummied out the 1906 election. The 1906 election was unusual in that it was the one election prior to 1949 where it was quite difficult to construct a sensible equivalent to the two-party preferred vote. The ALP, the Free Trade Party and the Protectionist Party all had similar voteshares, so that the coalition government had a much larger voteshare than occurred in most other Australian elections (71.44 per cent—the next highest is 61.42 per cent) where there were only two dominant parties or coalitions. As a result, including the 1906 election significantly distorts the results.[4] Excluding the 1906 election, the mean incumbent voteshare is 51.3 per cent with a standard deviation of 4.23. The majority of voteshares lie within a couple of percentage points of the mean.

Table 1 presents the results for the naive model where voters are assumed to react to the absolute levels of the variables and not to compare them to a trend or expected value. Specification 1 includes all the macroeconomic variables and dummy variables that indicate whether it is a 'honeymoon' election or a war-time election.

The first thing to note from the results is that there is evidence of a very strong honeymoon effect. On average the incumbent's voteshare is 3.8 per cent higher at their first re-election than

[3] The housing mortgage interest rates that were mentioned in the note above were from the DX database and covered the period from 1959 to 1998.

[4] It is also possible that changes in the nature of coalition formations and the rise and fall of smaller parties lead to heteroscedasticity of the error term. All of the reported results use White's method to correct for heteroscedasticity of unknown form.

TABLE 1
Economic Variables in Levels
Dependent Variable: Federal Incumbent Voteshare

Sample	1903–1996					
	(1)		(2)		(3)	
	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat
Unemployment	−0.58	**−2.84**	−0.29	**−2.12**	0.01	0.02
Δ Real Wage	−0.3	−1.84	−0.25	−1.84	−0.30	**−2.39**
Δ GDP	−0.06	−0.30	−0.19	−1.41	−0.17	−1.27
Inflation	−0.26	−1.88	−0.42	**−4.90**	−0.50	**−3.10**
1931 dummy			−17.19	**−7.15**	−21.72	**−5.12**
1975 dummy			−2.98	**−2.88**	−1.56	−0.92
WW1	−8.85	**−3.97**	−11.78	**−7.93**	−11.32	**−7.71**
WW2	2.81	1.57	2.52	1.77	2.30	2.02
Honeymoon	3.82	**2.06**	5.19	**3.80**	5.39	**4.84**
constant	55.34	**46.01**	54.97	**53.32**	53.04	**31.22**
LIB					2.50	1.36
LIB*u/e					−0.42	−1.55
LIB*inflation					0.14	0.79
N obs	37		37		37	
adjusted R^2	.53		.72		.72	
Root MSE	3.64		2.80		2.81	

Boldface *t*-statistics denote significantly different from zero at the 5 per cent level.

in subsequent elections. This is a very large effect given the relatively low variability in voteshares discussed above. The WWI dummy is strongly significant and negative. This is interesting as it does not fit in with the conventional wisdom that wars are good for incumbents, and is also suggestive that the political divisions during World War I (over conscription) were costly for the incumbent. In contrast, World War II did not affect the incumbent's voteshare.

In terms of the macroeconomic variables, only unemployment is statistically significant at the 5 per cent level. A 1 per cent rise in unemployment is estimated to reduce the incumbent's voteshare by 0.58 percentage points.

An examination of the raw data leads one to suspect that the 1931 election may be driving this result. This election was held in the midst of the great Depression. Unemployment was at a record high of 19.3 per cent and the voteshare of the incumbent that year was a record low of 41 per cent. The coefficient on inflation is likely to also have been disproportionately affected by the 1931 election because 1931 was the only election year in which inflation was negative (-8.8 per cent). The GDP growth and real wage growth recorded in 1931 were, however, not especially remarkable (-0.7 per cent and 1 per cent respectively). To control for the effects of the Depression, specification (2) in Table 1 dummies out the 1931 election.

The 1975 election is another obvious candidate for an unusual result. This was the election following the dismissal of the Whitlam Labor government by the then Governor General, Sir John Kerr. Specification (2) also includes a 1975 dummy variable which catches the unusually large swing against the 'incumbent'—defined to be the ALP—in that year.[5]

In 1975 the Labour party received 2.98 percentage points less than what would have been predicted by economic conditions alone. In 1931 the incumbent (the Labour government of Scullin) received 17.19 percentage points less than what would have been predicted given even the dire economic situation. Because of their statistical significance both of these dummies are included in all subsequent specifications. It should be noted however, that unlike the 1931 dummy, the 1975 dummy's inclusion does not affect the magnitude

[5] We have called the ALP the incumbent in 1975 because they were the ones responsible for economic policy in the preceding period. This election is an outlier no matter which party is labelled the incumbent.

nor the statistical significance of the coefficients on the economic variables. The inclusion of the 1931 dummy results in inflation becoming a statistically significant explanator of the incumbent's voteshare.[6] Unemployment remains statistically significant although the magnitude of its estimated effect is diminished. An increase in the inflation rate decreases the incumbent's voteshare by 0.42 percentage points and an extra percentage of unemployment penalizes the government 0.29 percentage points.

We admit that this procedure for dropping elections is somewhat arbitrary, although it is based on the principle of looking for statistical outliers. We have received numerous suggestions about other elections which were unusual because of perhaps the 'charisma' of a certain candidate, or because of a very important non-economic issue which our model does not capture. Obviously we are limited in how many elections we can specify as different using this dummy variable approach. However, our method will not lead to biased results as long as the factors that we have omitted from our analysis are not correlated with the economic variables that we have included.

Overall, Table 1 is consistent with a significant negative impact of inflation and unemployment on incumbent voteshares. These results contrast with those of Jackman and Marks (1994), who did not find any variables to affect voteshares at conventional statistical significance levels.[7]

We conducted an array of tests to examine the robustness of these results. Specifically, we investigated whether GDP and real wages were insignificant because of multicollinearity stemming from high correlations between the economic variables. For example, Okun's law suggests that unemployment and GDP will be highly correlated. However, the correlation between pairs of the explanatory variables is relatively low. No correlation is greater than 0.34 in absolute value. We experimented with dropping combinations of the variables. GDP and real wages never became statistically significant as a result of dropping the other economic variables. The coefficients on inflation and unemployment were robust to these changes.

We also conducted formal tests of parameter stability. One might expect that the relationship between the economic variables and voter behaviour has changed over time. We do not reject the null of parameter constancy, although this is due in part to the lack of precision of the estimates in subsamples of the data. When we broke the data into two subsamples (pre- and post-1960) the coefficients on inflation and unemployment were similar in size and of the same sign in both periods as the estimates over the entire sample.[8]

We also examined the residuals for evidence of outliers. Figure 1 plots the residuals from specification (2) in Table 1 by year of the election. There is no evidence of any large outliers.

As mentioned above, it is of interest to test whether the electorate punishes Labor and Liberal parties in different ways. We investigate this by constructing a dummy variable equal to one when the Liberal Party was in office, and zero otherwise. We then multiplied this variable by the two statistically significant variables in the regression over the entire sample—unemployment and inflation. We also included the Liberal dummy additively which picks up any systematic difference in the voteshares of the two parties. The results from inclusion of these additional variables are shown in the final two columns of Table 1. All of these additional variables are statistically insignificant. However the signs and sizes of the coefficients are of interest. The impact of a rise in unemployment on Labor incumbents is measured by the coefficient on unemployment. This coefficient is close to zero in size (.01), and insignificant. The effect of a rise in unemployment on the Liberal party is measured by the sum of the coefficients on unemployment and on the *Lib*u/e* variable. This sum is around −.43, consistent with the idea that Liberal incumbents are worse affected by high unemployment

[6] Note that the 1931 dummy variable affects the inflation coefficient because 1931 was the only year of deflation. The deflation of −8.8 per cent reflected the severely depressed nature of the economy and so is likely to have been viewed negatively in much the same way as high positive inflation. To examine this we experimented with including the absolute value of inflation. In specifications using the absolute inflation rate and no 1931 dummy we obtain similar results (a large, significant coefficient on inflation), which suggests that the very large deflation of 1931 was costly for the incumbent. However, since 1931 was the only election during which there was deflation there is little to empirically distinguish the absolute inflation specification from the 1931 dummy specification, and we have chosen to present only the results with the 1931 dummy.

[7] We also estimated all of the above specifications using one-quarter lags of the economic variables instead of current period values and found very similar results.

[8] The post-1960 data also allowed us to include interest rates. We found no evidence of housing mortgage interest rates affecting Federal electoral outcomes.

than Labor incumbents. Similarly, the inflation coefficients suggest that the Labor party is worse affected by high inflation than the Liberals. In both cases, however, these differences between parties are not statistically significant. We conclude that the electorate treats Labor and Liberal in the same way when evaluating economic outcomes, though point estimates of the coefficients are broadly consistent with partisan explanations of voteshare determination. Real wage growth becomes statistically significant in this specification. However, since the Liberal party dummy variables are insignificant our preferred model is specification (2) in which real wage growth is insignificant. Throughout this paper real wages and GDP growth are not robustly correlated with voteshares whereas the effects of inflation and unemployment are much more stable.

(ii) Incorporating Expectations

Table 2 shows the results where we use two different measures of expected outcomes. The first two columns show the results where we include the macroeconomic variables minus the ten-year moving average of each variable. Here we are testing whether the incumbent is punished (loses voteshare) only when unemployment (or any other variable) is high relative to trend. If this is the case, the incumbent will not lose voteshare if unemployment is high, but not high relative to recent unemployment experience. The second two columns of Table 2 examine the impact of the increase over the term in government for all of the macroeconomic variables. Again, this is to try and capture the idea that voters care about performance relative to expected performance, rather than simply the levels of the macroeconomic variables. In both specifications, high unemployment relative to the 'expectation' is punished by the electorate. High inflation relative to trend decreases voteshare in the ten-year moving average model but is not statistically significant in the model which uses the increase over the term in government.

Note also that GDP growth is statistically significant in both of these models but negative. That is, if taken literally, the incumbent is punished for producing high GDP growth. However, as mentioned above when discussing the instability of the real wage growth variable, this result is not very robust. The GDP coefficient estimate (unlike the coefficient estimates for inflation and unemployment) changes sign and significance when we change the regression specification (for example if we use a five-year rather than a ten-year moving average or if we examine the average over the term

TABLE 2

Economic Variables Relative to Expectations
Dependent Variable: Federal Incumbent Voteshare

rhs variables	Election date figure minus ten-year moving average (1)		Increase over term in government (2)	
	Coefficient	*t*-stat	Coefficient	*t*-stat
Unemployment	−0.88	**−3.38**	−0.40	**−2.06**
Δ Real Wage	−0.24	−1.86	−0.08	−0.63
Δ GDP	−0.34	**−2.51**	−0.22	**−2.41**
Inflation	−0.30	**−3.54**	−0.15	−1.32
1931 dummy	−6.38	**−2.25**	−10.30	**−4.56**
1975 dummy	−3.93	**−3.12**	−6.22	**−6.78**
WWI	−10.16	**−8.44**	−8.43	**−7.81**
WWII	−1.54	−0.74	2.23	1.19
Honeymoon	4.22	**3.26**	2.73	**2.74**
constant	50.84	**90.14**	51.12	**87.06**
N obs	34		36	
adjusted R^2	.55		.67	
Root MSE	2.71		2.99	
p-value	0.83 (u/e + u/e^{MA} = 0)		0.08 (u/e + $u/e^{initial}$ = 0)	
	0.20 (inf + inf^{MA} = 0)		0.00 (inf + $inf^{initial}$ = 0)	

All of the macroeconomic variables are transformed as described at the top of the Table.

minus the initial level of each of the variables).

Note that in these models we are implicitly restricting the coefficient on the 'expectation' of the economic variable to be the same magnitude as the coefficient on the current value of the variable. In the first case we are restricting the coefficient on the ten-year moving average to be the negative of the coefficient on the current level of the variable. In the second case we are restricting the value at the start of the term to equal the negative of the coefficient on the current value. A test of these restrictions is hence a test of the appropriateness of the specification. We test these restrictions and accept the restriction for specification (1) but not for specification (2) (see the p-values reported at the bottom of Table 2). This is suggestive that the ten-year moving average model may be better capturing voter expectations than the increase over the term in government model.

We can also test the Table 2 specification versus specification (2) in Table 1. Note that this regression is nested within the Table 2 regressions when the coefficients on the 'expectations' variables are restricted to equal zero. If we include unemployment and the ten-year moving average unemployment rate separately in our regression and find that, for example, only the unemployment rate is significant, and not the moving average, then we have evidence that the level of unemployment is important (as in Table 1), and not the level relative to expectations. We conduct this test and reject the restriction that the coefficient on the moving average is equal to zero for unemployment ($p-$value$=0.00$) but not for inflation ($p-$value$=0.13$). We conclude from this that unlike unemployment, inflation seems to affect the voteshare in its level.

The above findings can be summarized as follows. Unemployment seems to consistently affect electoral outcomes, with the results suggesting that governments are penalized for having high unemployment relative to trend rather than high unemployment *per se*. Inflation also affects electoral outcomes in a systematic way. The evidence suggests that the absolute level of inflation may be important rather than changes relative to a trend. Layton (1992) also found changes, rather than levels, of unemployment to be an important determinant of voteshares but, contrary to this study, he found that changes in inflation rather than its absolute level affected political popularity. The other macroeconomic variables we controlled for do not appear to have a stable and systematic relationship with electoral outcomes. We found that the influence of macroeconomic variables on incumbent voteshares does not depend on whether the incumbent is the Labor or the Liberal Party. Finally, WWI was unkind to incumbents and there does appear to be a large and statistically significant honeymoon effect in Federal elections.

We have checked the robustness of these conclusions by examining a number of specifications different to those presented in Tables 1 and 2. It may be that it is the level of the macroeconomic variables in the quarter or year before the election, rather than during the election, that matters. This might be because voters only become aware of poor economic performance some time after the economy begins to perform poorly. Using lags of the variables rather than contemporaneous variables does not alter the conclusions above. It may also be that the macroeconomic variables are highly correlated, and so including all of the variables biases our finding that real wages and GDP growth do not affect incumbent voteshares. When we include each variable separately, or include pairs or triples of the four macroeconomic variables we again draw similar conclusions.

(iii) Individual Seats

To supplement the aggregate voteshare results and to further examine whether the political parties receive different treatment in the hands of the electorate we have estimated similar equations to those above for three electorates in Victoria. The electorates are Kooyong (safe Liberal), Melbourne Ports (safe Labor) and Latrobe (swinging). If Liberal voters do care more about inflation than Labor voters and if the Liberal party is seen to be a better performer with respect to inflation and Labor better with respect to unemployment then we may see the political parties receiving different treatment and voting behaviour differing across these three electorates. Only post-war data are available for the individual seats and the results are presented in Table 3. We report only the results for the ten-year moving average model which is analogous to specification (1) in Table 2.[9] We note that there are some problems

[9] The electorate level results are less robust than the aggregate level results. In some other specifications the macroeconomic variables are significant. However, the reported results appear to be the most robust across different specifications—in Melbourne Ports and Kooyong no variables are consistently found to be significant, while in Latrobe the partisan effects are found to be important.

TABLE 3

Individual Seat Results
(Ten-Year Moving Average Model)

Dep. Variable:	Percentage of the vote received by the Federal incumbent					
	Kooyong		Melbourne Ports		Latrobe	
	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat
Unemployment	0.74	0.73	−1.76	−0.77	5.38	**3.65**
Δ Real Wage	−0.13	−0.58	0.43	0.94	−0.98	**−2.75**
Δ GDP	0.09	0.23	−0.50	−0.60	0.26	0.39
Inflation	0.02	0.09	−0.11	0.26	0.38	1.05
LIB	32.7	**17.2**	−28.0	**−7.95**	10.9	**6.30**
LIB*u/e	−3.08	**−2.08**	3.17	1.03	−10.0	**−5.00**
LIB*inflation	−0.41	−1.21	−0.35	−0.74	−0.53	−1.34
Honeymoon	5.20	**2.46**	8.80	**2.91**	7.45	**2.79**
1975 dummy	−0.82	−0.21	8.78	1.19	−19.2	**−2.58**
constant	28.3	**20.5**	51.8	**16.1**	30.0	**31.1**
N obs	21		21		20	
adjusted R^2	.90		.76		.59	
Root MSE	4.97		7.60		4.76	
p-value	.10 (u/e+lib*u/e=0)		.45 (u/e+lib*u/e=0)		.01 (u/e+lib*u/e=0)	
	.26 (inf+lib*inf=0)		.47 (inf+lib*inf=0)		.64 (inf+lib*inf=0)	

Kooyong has always been held by the Liberal Party, Melbourne Ports has always been held by the Labor Party, while Latrobe has been held by the government party in every election except 1980, 1990 and 1993.

with using the individual seats which will not afflict the Federal voteshare results. In particular, creation of new seats and redrawing of electoral boundaries will affect the characteristics of the population in each seat in an unpredictable manner. Despite these problems, we feel that the seat results are of potential interest, but the results should be treated with caution.

The dependent variable is the voteshare of the candidate in each of the electorates for the party that was the Federal incumbent.[10] To control for partisan effects we include the three variables discussed above—*LIB*, a dummy variable equal to one when the incumbent government is Liberal and zero otherwise, and this dummy variable interacted with inflation and with unemployment.

The first thing to note is that the results are different from the aggregate level results and they differ across the seats. Economic variables are not a significant determinant of voter behaviour in either of the two safe electorates.[11] In the swing-ing seat of Latrobe, however, economic variables do seem to influence voter behaviour. Unemployment is statistically significant but unlike the aggregate level results, we see evidence in accord with partisan theory. Note that the impact of unemployment on the Labor party vote when Labor is in power is simply the coefficient on unemployment. The impact of unemployment on the Liberal Party vote when the Liberal Party is in power is equal to the sum of the coefficient on unemployment and the coefficient on the interaction term *LIB*u/e*. The results show that the Liberals are punished for high unemployment in Latrobe (an extra per cent of unemployment relative to trend decreases the Liberal first preferences by 4.6 percentage points) while, in contrast, a Labor government actually benefits on average from high unemployment (4.0 percentage points for a 1 per cent increase). This is consistent with the idea that the electorate is concerned with unemployment and the ALP is viewed as being more inclined to attempt to reduce unemployment. In none of these three electorates is inflation a significant explanator of voter behaviour. Like specification (3) in Table 1, real wages are found to have a statistically significant and negative effect in the seat of Latrobe. This result was not very robust at the aggregate level, and it appears

[10] We have used this dependent variable to be consistent with the results for the Federal elections.

[11] Note that although the coeff on *LIB*unemp* is statistically significant in the Kooyong regression, the total effect of unemployment on the Liberal party is 0.74 −3.08 and this is statistically insignificant at the 5 per cent level (p−value=0.10).

that this is also not a robust result at the seat level. For instance, in a regression with all of the variables in levels real wages are no longer significant.

The honeymoon effect is very strong in all three electorates. The coefficient on the 1975 dummy is also interesting. It is strongly significant in the swinging seat and with a very large coefficient of -19.2. That is, in 1975 the Labor party received 19.2 per cent less of the vote than they would have been expected to in any other year. This differs from the insignificant effect of the 1975 election in Kooyong and Melbourne Ports. It is interesting that the economic variables do not show up as significant in the safe seats. This is consistent with voters in these seats being more concerned with ideology and other factors than with economic performance.

It is interesting to consider these results from the theoretical perspective. Partisan theory suggests that voters are ideological, and will always vote for the party closest to their own preferred position. Punishment models presume that voters punish or reward incumbents according to the performance of the economy during the incumbent's tenure. In a safe seat, voters know that they are unlikely to affect outcomes, and so voters may be more inclined to vote ideologically. In a swinging seat, voters can influence election outcomes, so that perhaps this leads them to vote according to government performance. Another possibility is that voters in safe seats know that they are likely to get their preferred candidate, and so they can safely send their candidate a message by voting against the incumbent if the economy performs poorly. Our empirical evidence seems to support the first argument rather than the second. While these conjectures are speculative, we feel that they would be fruitful areas for further research, both on the theoretical and on the empirical side.[12]

V Conclusions

In this paper we have examined the influence of a number of macroeconomic variables on incumbent voteshares in Australian Federal elections, as well as for a small number of individual seats. Our approach was to examine a wide range of possible specifications of the link between macroeconomic variables and voteshares, and to search for robust results. The results for the Federal elections show that both inflation and unemployment influence the incumbent voteshare. It is the rate of inflation at the time of the election which affects the voteshare whereas incumbents seem not to be naively punished for high unemployment, but rather are penalized if unemployment is high relative to expected unemployment. There does not appear to be any robust relationship between GDP or real wages growth and the incumbent voteshare at the Federal level, nor is it the case that the incumbent's Federal voteshare is differentially affected by inflation or unemployment depending on whether they are Liberal or Labor.

We find slightly different results at the electorate level. In the safe Liberal seat of Kooyong and the safe Labor seat of Melbourne Ports, the voteshare of the party of the Federal incumbent is not affected by economic variables. However, in the swinging seat of Latrobe, unemployment is a significant determinant of voteshares. The results are consistent with the voters having the perception that the Labor party is more committed to lowering unemployment. A Labor government is more likely to be returned to office if unemployment rises relative to trend whereas the Liberal party is penalized for such an outcome.

A more detailed examination of voting at the electorate level is a fruitful area for future research although the continual redrawing of electoral boundaries and creation of new seats makes this a difficult task.

[12] The literature on voting behaviour often considers the problem of whether or not to vote, rather than how to vote when voting is compulsory (see Palfrey and Rosenthal 1983, for example). The issue of how to vote strategically when voting is compulsory is, to our knowledge, a relatively unexplored area of research. We thank a referee for alluding to these kinds of conjectures as a way of trying to interpret the individual seat results.

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